

SEQ ID NO.	BIALLELIC MARKER ID	ORIGINAL ALLELE	ALTERNATIVE ALLELE
1	20-828-311	C	T
1, 4	17-42-319	C	T
1, 2, 4	17-41-250	C	T
1	20-841-149	A	G
1	20-842-115	G	A
1	20-853-415	C	T

Figure 1

SEQ ID no.	Biallelic Marker ID	Original Allele	Alternative Allele	Position Range of Preferred Sequences
1	20-828-311	C	T	739-1739
1	17-42-319	C	T	10946-12958; 13470-13526; 13641-13752
1	17-41-250	C	T	14271-17969
1	20-841-149	A	G	41718-42718
1	20-842-115	G	A	44942-45942
1	20-853-415	C	T	76558-77558
2	17-41-250	C	T	1-1879
4	17-42-319	C	T	1-1498; 1613-1724
4	17-41-250	C	T	2243-3940; 3941-5381

Figure 2

A

SEQ ID NO.	POSITION OF CONFLICT	NUCLEOTIDE
1	13269 (SEQ ID No 1)	T (original)
4	1241 (SEQ ID No 4)	C (alternative)

B

SEQ ID NO.	POSITION OF CONFLICT	NUCLEOTIDE
1	13475 (SEQ ID No 1)	G (original)
4	1447 (SEQ ID No 4)	A (alternative)

Figures 3A, 3B

T03240-13269-13269

SEQ. ID. NO	POSITION RANGE O MICROSEQUENCING PRIMERS	COMPLEMENTARY POSITIN RANGE OF MICROSEQUENCING PRIMERS
1	1220-1238	1240-1258
1	12328-12346	12348-12366
1	15222-15240	15242-15260
1	42199-42217	42219-42237
1	45423-45441	45443-45461
1	77039-77057	77059-77077
4	300-318	320-338
4	3194-3212	3214-3232

Figure 4

SEQ. ID NO.	POSITION RANGE OF AMPLIFICATION PRIMERS	COMPLEMENTARY POSITION RANGE OF AMPLIFICATION PRIMERS
1	929-949	1357-1377
1	12029-12050	12581-12603
1	14992-15012	15460-15482
1	42070-42090	42572-42591
1	45328-45347	45863-45883
1	76644-76664	77166-77185
4	1-11022	553-11575
4	899-11920	1441-12461
4	1246-12267	1632-12651
4	2964-13984	3432-14454

Figure 5

SEQ. ID NO	POSITION RANGE OF PFOBES
1	1227-1251
1	12335-12359
1	15229-15253
1	42206-42230
1	45430-45454
1	77046-77070
4	307-331
4	3201-3225

Figure 6

Alignment of ApoA IV-related cDNA with Human and Swine cDNA's

ApoA IV related	A G A C G T G A G C A G A G C A G A T A A T G G C A A G C A T G G C T G C T C A C C T G G G C T C T G G C T - C T T C T T T C A G C G T T T T C G G C	79
Human ApoA IV	A G T T C C C A C T G C A G G - - - - - C A G G T G - A G C T C T C T G A G G A C C T - - - C T C T G T C A G C T C C C C T G A T T G T A G G G A G G	68
Swine ApoA IV	- - - - - G C A - - - - - C A G G T G - A G C T G - C C T G A G A A C C T - - - C T C - - - - - C T C C A C - - - - - G G A G G	39
ApoA IV related	C A C C C A G G C A C G A A A G G C T T C T G G A C T A C T T C A G C C A G A C C A G C G G G A C A A A G G C A G G G T G A G C A G A T C C A T A G C	159
Human ApoA IV	C A T C C A G - T G T G G C A A - - - - - G A A C T C C T C C A G C C - - - C A G C A A G - - C A G C T - C A G G A T G - - - - - T T C C T G A -	124
Swine ApoA IV	- A C C C A G - T G C A G T A A - - - - - G A G A C A C T C C A G C C - - - C A G C G G G - - A G C T - C A G G A T G - - - - - T T C C T G A -	93
ApoA IV related	A G A A G A T G G C T G G G A G C C G C G A C C C T G A A A G A C A G C C T T G A G A A G A C C T C A A C A A T A T G A A C A A G T T C C T G G A A A A G	239
Human ApoA IV	A G G C G T G G T C C - T G A C C C T G - - - G C C C T G G - - - T G G C T G T C G C C G A G C C A G G G C - - T G A G G T C A G - - T G C T G A C C A G G	193
Swine ApoA IV	A G G C T G T G G T C C - T G A G C C T G - - - G C C C T G G - - - T G G C C G T C A C C G T G C C O G G G C - - T G A G G T C A A - - T G C G A C C A A G	162
ApoA IV related	C T G A G G C C T C T G A G T G G A G C G A G G C T C C T C G G T C C C A C A G G A C C O G G T G G G C A T G C G G C G C A G C T G C A G G A G G A T T	319
Human ApoA IV	T - - - G G C C A C A G - - T G A T - G T G G G A C T - - - - - A C T T C A G C C A G - C T G A G C A A C A A T G C C A A G G A G G C G T - G G A A C A T C T	260
Swine ApoA IV	T - - - G G T A C T G - - T G A T - G T G G G A C T - - - - - A C T T C A G C C A G - C T G G G C A G C A A T G C C A A G A A G G C T G T - G G A A C A T C T	229
ApoA IV related	G G A G G A G T G A A G G C T C G C C T C A G C C T A C A T G G C A G A G G C G A C A G A C T G T G G G C T G A A T T T G G A A G G C T T G C G G C	399
Human ApoA IV	C C A G - A A A T C T G A A C T C A C C - - C A G C A A C T C A - - - - - A T G C C T C - - - T T C C A G G A C - - A A A C T T G G A G - - - - -	316
Swine ApoA IV	C C A G - A A G T C T G A G C T C A C C - - C A G C A G C T C A - - - - - A C A C T C T C - - - T T C C A G G A C - - A A A C T T G G G - - - - -	285
ApoA IV related	A G C A A C T G A A G C C C T A C A C A G A T G A T C T G A T T G A G A G A G G T G C C C T G C G G T G C A G G A G C T G C A G G A G A G T G C G G T G	479
Human ApoA IV	- - - A A G T G A A C A C T T A C G C A G G T G A C C T G C A G A A A A G C T G T G C C C T T T G C C A C G A G C T G C A T G A A C - - - - - G C C T G	387
Swine ApoA IV	- - - A A G T G A A C A C C T A C A C G A G G A C C T G C A G A A G A A G C T G T G C C C T T T G C C A C G A G C T G C A T G A A C - - - - - G C C T G	356
ApoA IV related	C T G G G G A A G A C A C A A G G C C A G T T G C T G G G G G C G T G G A O G A G G C T T G G G C T T T G C T G A G G A C T G C A G A G C C G C T	559
Human ApoA IV	G C - - - C A A G G A C T G G A G A - - - A A C T G - - A A G G A G - - - - - G A G A T T G G A A G G A G C T G G A G G A G C T G A G G G C C G G C T	452
Swine ApoA IV	A C - - - C A A G G A C T G A G A - - - A G C T G - - A A G G A G - - - - - G A G A T T G A A G G A G C T G G A G G A G C T G C A G C C C G G C T	421
ApoA IV related	G T T G A C C A G A C C G G C C G C T T C A A A G A G C T C T T C C A C C A T A C G C O G A G A G C C T G - G T G A G C G G C A T G G G C G C A C A G T G	638
Human ApoA IV	G C T G C C C C A T G C C A A T - - - - - G A G G T G A G C C A G A A G A T C G G G A C A A C C T G C G A G A G C T T C A G C A G - C G C C - - - T -	518
Swine ApoA IV	G C T G C C C C A C G T A C - - - - - G A G G T G A G C C A G A A A T C G G A G A C A A C T G C G C G A G C T G C A G C A G - C G C C - - - T -	487
ApoA IV related	C A G G A G C T G A C C G A G T G T G G C T C O G A G C C C C C G C A G C C G C G C C C T C A G T O G C T G C G T G C A G T T G C T C T C C G	718
Human ApoA IV	- - - G G A G C C - C T A C C G C A C C A G C T - - - G C G C A C C A G G T C A A C A C G - C A G G C C - G A G C A G C T G C G - - - - - G C G C - C A G C T G	585
Swine ApoA IV	- - - G G G G C C - C T T A C C G G A G G G C T - - - G C G C A C C A G G T C A A C A C C - C A G G T T - C A G C A G C T G C A - - - - - G C G C - C A G C T G	554
ApoA IV related	G A G C T C A C C T C A A G G C C A A G G C C T T G A C G A C G A T C A A G C A G A A C C T G A C C A G C T G G G G A A G A G C T G A G C A G	798
Human ApoA IV	A C C C C T A C G - - C A C A G C - - - - - G C A T G G A G A G A T G C - T G C G G A G A A C - - - - - G C G A C A G C C T G C A G G C C T G C T G A G G	654
Swine ApoA IV	A A G C C C T A C G - - C A C A G C - - - - - G C A T G G A G T C C G T G C - T A C G G C A G A A C - - - - - A T C G C A A C C T G A G G C C C T C G T G G C A	623
ApoA IV related	C C T T - T G C A G A C T T G G A C T G A G A A G G G C C G C C C G G A C C C C A G A T G C T C T C O G A G G A G G T G G C C A G C A G T T C A	877
Human ApoA IV	C C C A C C C C G A C - - - - - G A G C T C A A G G C C A A G A T C G A C C A G A A C -	712
Swine ApoA IV	C C C T A T C C G A T - - - - - G A G T T C A A G G C C A A G A T C G A T C A G A A T -	681
ApoA IV related	G G T T T C C G C C A G G A C C T A C T G C A G A T A G C T G C T T C A C T T G G C C A T C G A C C A G G A C T G A G G A G G T C A G A G C	957
Human ApoA IV	- G C C T A C G C - - - - - C C T A C - - G C T G A C G A - - A T T C A A A G T C A A G - - A T T G A C C A G A C C G T G G A G A G C T G C C C - G C	777
Swine ApoA IV	- G C C T A C G C - - - - - C C T A T - - G C G A G A - - G C T C A A G G C A A G - - A T C G A T C A G A A C G T G A G A G C T G C G G C - G C	746
ApoA IV related	A G T G C G C C A C C T C C A C A G G C C A C A G T G C C T T G C C C C A G A G T T T C A A C A A A C A G A C A G T G G C A A G G T T C T G A G C A A G	1037
Human ApoA IV	A G C C T G - G C T C C C T A T G C T - - - - - C A G G A C A G C A G G - - - - - A G A A G C T C A A C C A C C A G C T - - - - - T G A G G G C C T G A -	838
Swine ApoA IV	A G C C T G - G C C C C C T A T G G - - - - - C A G G A C T C A G G - - - - - A G A A G C T C A A C C A C C A G C T - - - - - C G A G G G C C T G -	807
ApoA IV related	C T G C A G G C C G T C T G A T G A C C T G T G G A G A G A T A C T C A C A G G C T T C A T G A C C A G G G C C A G C C A T C T G G G G A C C C	1117
Human ApoA IV	- - - - - C C T T C C A G A T G A - - - - - A G A A G A A C G C C G A - - - - - G G A G C - - T C A A G G C C A G G A T C T C G G C C A G - T G - - - - -	892
Swine ApoA IV	- - - - - C C T T C C A G A T G A - - - - - A G A A G C A G G A G A - - - - - G G A G C - - T G A A G G C C A A G A T C T C G G C C A A - T G - - - - -	861
ApoA IV related	C T G A G G A T C T A C T C C C C A G G C C A T T C C C A G C T C C T T G T C T G G G A G C C T T G G C T C T G A C C T C T A G C A T G G T T C A G T	1197
Human ApoA IV	C C G A G A G C T G C - - - - - G G C A G A - - - - - G G C T - - - - - G G C C C C T T G G C C G A G G A C G T - - - - - G C T G G C - A A - - - - -	945
Swine ApoA IV	C C G A C A G C T G C - - - - - G G C A G A - - - - - A G C T - - - - - G G T G C C G T G G C C G A A A C G T - - - - - G C A T G G C - C A - - - - -	914
ApoA IV related	C T T G A A A T G G C C T G T T G G T G G A G G G T G G A A G G T C C T T G C A G G A C A G G A G G C C A A A A G G G T G T G T C T C C T G C	1277
Human ApoA IV	C T G A G G G G C A A C - - - - - A C C G A G - G G G C T G C A G A A G T C A C T G - G C A G A G C T G G T T G G C A C C T - - - - - G G A C C A G C A G G T G G A A G	1018
Swine ApoA IV	C T G A A G G G C A A C - - - - - A C C G A G - G G G C T G C A G A A G T C C T G - C T G A G C T G A G A G C C A C C T - - - - - G G A C C A G C A G G T G G A G G	987
ApoA IV related	A T A T C C A G C T C T G C G A C T C C C A A T C T G G A T G C A T T A C T T C A C C A G G C T T T G C A A A C C C A G C C T C C C A G T G C T C A T T	1357
Human ApoA IV	A G T T C C A G C C G G T G G A G C C C T A - - - - - C G G G A A A C T T C A - - - - - A C A A A G C C T G - - - - - G T G C A G C - - - - - A G - - - - - A	1078
Swine ApoA IV	A G T T C C C C T A A A G T G G A G C C C T A - - - - - C G G G A G A C T T C A - - - - - A C A A A G C T T T G - - - - - G T G C A G C - - - - - A G - - - - - G	1047

Figure 7 A

Alignment of ApoA IV-related cDNA with Human and Swine cDNA's

ApoA IV related	TGGGAATGCTCATGAGTTACTCCATTCAAGGGGTGAGGGAGTAGGGAGGGAGAGGCACCATGCATGTGGGTGATTATCTGC	1437
Human ApoA IV	TGGAAACAGCTCAGGA-----CGAAACTGGGCCCCCATGCGGGG-----ACGTGGAAGGCCACITG	1134
Swine ApoA IV	TGGAGGATCTCAGGC-----AGAAGCTGGGCCCTTGGCGGGG-----ACGTGGAAGGCCACCTG	1103
ApoA IV related	AAGQCTGTTTCCCGTGATGCTGGAAGCGTGTGCCACTACATCCTGGAGTTTGGCTCTAGTCACITTCGGCTGCCITGGTGG	1517
Human ApoA IV	-AGCTTCCTGGAGAAGGACCTGAGGGACAAGGTCA--ACTCCTT-----CTTCAG-CACCTTCAA-----GGAGA	1195
Swine ApoA IV	-ACCTTCCTGGAGAAGGATCTGAGGGACAAGGTCA--ACACCTT-----CTTCAG-CACCTTCAA-----AGAGG	1164
ApoA IV related	CCACTGTCTACAGCTGGTCCACAGAGAGGAGGACTTGTGTCCCAGGGCTGCCATGGCAGCTATCAGGGGAATAGAAAGGGA	1597
Human ApoA IV	-----AAGAAGGCCA-GGACAAGACT-CTCTCCCTCCCTGAGCTGGAGCAACAGC-----AGGAACAGCATCAG	1257
Swine ApoA IV	-----AGGAGAGCCA-GGGCCAGAGC-CAGGCCCTCCCT-----GCA-----	1199
ApoA IV related	GAAAGAGATATCATGCGGAGAACATGTGATGGTGTGTGAATATCCCTGCTGGCTCTGATGCTGGTGGGTAGGAAAGGTG	1677
Human ApoA IV	GAGCAGCGCAGGAGCAGGTGCAGATGTGCGCCCTTTGGAGAGCTGAGCTGCCCTGGTGCA--CTGGCCCCACCTCG	1335
Swine ApoA IV	-----CAGGAGAAGGCGCAG-----GCCCTTTGGAGGGCTGAGCTGCCCTGGTGCT--CCACCCCACTCTG	1262
ApoA IV related	TGGGCTGTGATAGGAGAGGGCAGAGCCCATGTTTCCTGAATAGCTCTACACCTAAATAAGGGAAGTAAACCTCCCAACT	1757
Human ApoA IV	TGGAC-----ACCTGC---CCTGCCCT-GCC---ACCT-----GTCTGT-CTGTCCCA--	1376
Swine ApoA IV	--AC-----ACCTGC---CCTGCCCT-GCCCCCTGTCT-----GTCTGT-CTGTCCCA--	1304
ApoA IV related	GTGCGAGCTCTTAAACCTCTGGGGAGCATACTGTGTGCTCTCCCATCTCCAGCCCTCCTCTGGGTTCCTCAAGTGTG	1837
Human ApoA IV	--AGAAGTTC-TGSTATGAACCTTGAAGACACA-----TGTCAGTGGGAGGTGAGACCACCTCTGAA--TATTCAA--TA	1444
Swine ApoA IV	--AGCAGTTC-TTGATCAAACTTAGGGATACA-----TGTCAGTGGACCGTGACACTACCTCTGCA--TACTCAA--TA	1372
ApoA IV related	AAGCTAGACTTCTGGCTCAATGAAATAGATGTTTATGATA	1879
Human ApoA IV	AAGCT-----GCTGAGA--ATCTAGCC-----TC	1466
Swine ApoA IV	AAGCT-----GCTGAGA--AACT	1388

Figure 7 B

Alignment of ApoA IV-related protein with Human and Swine ApoA IV

ApoA IV related	MASMAVLTWALALISA---FGATQARKGFWDFSQTSGD-KGRVQEIQHQQKMAREPATIL-KDSLEQDNLNNMKFLEKLI	74
Human ApoA IV	MFLKAVVLTALVAAGARAEVSADQVATVMWDYFSQISNNAKAEAVEHLQKSELTQQNLALFQDKLGEVNTYAGDLQKKL	80
Swine ApoA IV	MFLKAVVISLALVAVTGARAEVNADQVATVMWDYFSQIGSNARKAVEHLQKSELTQQNLTLFQDKLGEVNTYTEDLQKKL	80
ApoA IV related	RRLSGSEAPRIPOQPVGMRRQLQEELEEVKARIQPVMAEAAHELVGWNIEGIRQQIKPYTMDIMEQVALRVQELQEQIRVV	154
Human ApoA IV	VPFATELHERIAKDSKELKEEIGKLELEELRARLLPHANEVSQKIGDNLRLELQQRLEPQADQLRTQVNTQAEQIRRQLTPY	160
Swine ApoA IV	VPFATELHERITKDSEKLKEEIRRELEELRARLLPHATEVSQKIGDNVLELQQRIGEFFGGELRTQVNTQVQLQQRQIKPY	160
ApoA IV related	GEDTKAQILGGVDEAWALD---CGLQSRVVHHTGRFKELFHPYAESISVSGIGRHHQELHRSVAPHAPASPARISRCVQV	230
Human ApoA IV	ACQMERVLRNALSQASIRPHADELKAKIDQNVEELKGRLLTPYADEPKVKIDQTVVEELRRSLAPYAQDTQEKLNHQLEG	240
Swine ApoA IV	AERMESVLRQNI RNUEASVAPHYADEFKAKIDQNVEELKGSLLTPYAEELKAKIDQNVEELRRSLAPYAQDVQEKLNHQLEG	240
ApoA IV related	LSRKLTLKAKAHARIQQNLQQLREELISRAFAGT----GTEEGAGDDPQMI SEEVRLQQAIFRQDTYLOIAAETRAIDQ	305
Human ApoA IV	LTTFQMKRNAAELKARISASAEELRQRLAFLAEDVRGNIRGNTGELQKSIAEIGCHLDQQVEEFRRRVEPYGENFNKALVQ	320
Swine ApoA IV	LAFQMKKQAAELKAKISANADELRQKLIVPAENVHGHILKGNTEGLQKSILEIRSHLDQQVEEFRLKVEPYGETFNKALVQ	320
ApoA IV related	ETEEVQQQLAFPPPGHSAFAPEFQOTDSGKVL SKLQARLDDLWELTHSI-----HDQGHSHLGDH	366
Human ApoA IV	QMEQLRTKLGPHAGDVEGHLSEFLKDLRDKVNSFFSTFKESQDKLSLPELEQQQEQHQEQQQEQVQVMTAPLES	396
Swine ApoA IV	QVEDLRQKLGPHAGDVEGHLSEFLKDLRDKVNTFFSTLKEASQGSQALPAQEKAAQ-----APLEG	382

Figure 8

Alignment of ApoA IV-related cDNA with Rat RAP3 cDNAs

ApoA IV related	AGACGTGAGCAGAGCAGATAAATGGCAAGCATGGCTGCCGTGCTCACCTGGGCTCTGGCTCTTCTTTTCAGCGTTTTGGGC	80
Rat RAP3 A	-----GC--ATCGTGGAAAGCATGGCTGCCGTGCTCACCTGGGCACTGGCCCTCTCTCAGTGTTCGCAACT	65
Rat RAP3 B	-----GC--ATCGTGGAAAGCATGGCTGCCGTGCTCACCTGGGCACTGGCCCTCTCTCAGTGTTCGCAACT	65
ApoA IV related	ACCACGGCAGGAAAGGCTTCTGGGACTACTTGAAGCAGACAGCGGGACAAAGGCAGGGTGGAGCAGATCCATCAGCA	160
Rat RAP3 A	GTACAGGCAGGAAAGGCTTCTGGGAGTACTTGGCCAGAAAGGCAGGCAAGGCATGATGGGCCAG-----CAGCA	139
Rat RAP3 B	GTACAGGCAGGAAAGGCTTCTGGGAGTACTTGGCCAGAAAGGCAGGCAAGGCATGATGGGCCAG-----CAGCA	139
ApoA IV related	GAGATGGCTGGGAGCCGCGAAGCTGAAAGACAGCCTTGAGCAAGACCTCAACAATATGAACAAGTTCTGGAAAAGC	240
Rat RAP3 A	GAAGCTGGCAGGAG-----AGCCTGAAAGGTAGCTTGGAGCAAGACCTCTACAATATGAACAATTTCTAGAAAAGC	213
Rat RAP3 B	GAAGCTGGCAGGAG-----AGCCTGAAAGGTAGCTTGGAGCAAGACCTCTACAATATGAACAATTTCTAGAAAAGC	213
ApoA IV related	TGAGGCTCTGAG-----TGGAGGAGGCTCCTGGCTGCCACAGGACCTGGTGGGCATGGCGGCAGCTGCAGGAG	314
Rat RAP3 A	TGGGACCTTGAGAGAGCCTGGGAAGGAGCCTCCTGGCTGGCAAGGATCCAGAAGGCAATTCGGAAGCAGTTGCAGCAA	293
Rat RAP3 B	TGGGACCTTGAGAGAGCCTGGGAAGGAGCCTCCTGGCTGGCAAGGATCCAGAAGGCAATTCGGAAGCAGTTGCAGCAA	293
ApoA IV related	GAGTTGGAGGAGGTGAAGCTTGGCTCCAGCCCTACATGGCAGAGGCGCAGAGCTGGTGGGTGGAAATTTGGAGGGCTT	394
Rat RAP3 A	GAGCTGGAGGAAGTGAGCACAAGCCTGGAGCCCTACATGGCTGCAAGCAAGCAGAGGTGGCTGGAACTTCGAGGGCTT	373
Rat RAP3 B	GAGCTGGAGGAAGTGAGCACAAGCCTGGAGCCCTACATGGCTGCAAGCAAGCAGAGGTGGCTGGAACTTCGAGGGCTT	373
ApoA IV related	GGGCGAGCACTGAAGCCCTACACGATGGATCTGATGGAGCAGGTGGCCCTGGCGCTGCAGGAGCTGCAGAGCAGTTGC	474
Rat RAP3 A	GAGGCGAGCAGTTGAACCCCTACACGCTCGAGCTGATGGAGCAGGTAGGCCCTGAGCGTGCAGGATCTGCAAGAACAGCTGC	453
Rat RAP3 B	GAGGCGAGCAGTTGAACCCCTACACGCTCGAGCTGATGGAGCAGGTAGGCCCTGAGCGTGCAGGATCTGCAAGAACAGCTGC	453
ApoA IV related	GGTGGTGGGGGAAACACCAAGGCCAGTTGCTGGGGGGCGTGGAGAGGCTTGGCTTTGCTGCAGGAGCTGCAGAGC	554
Rat RAP3 A	GCATGGTGGGAAAGGCACCAAGGCCAGCTCCTGGGGGGCGTGGATGAGGCGATGAGCCTGCTGCAGGATATGCAAGT	533
Rat RAP3 B	GCATGGTGGGAAAGGCACCAAGGCCAGCTCCTGGGGGGCGTGGATGAGGCGATGAGCCTGCTGCAGGATATGCAAGT	533
ApoA IV related	CGCGTGGTGCACCAAGCGGCTTCAAAAGAGCTCTCCACCCATACGCGAGAGCTGGTGAGCGGATCGGGCGCCA	634
Rat RAP3 A	CGAGTGTGCAACATACGGACCGAGTCAAAGAACTCTCCACCCCTTATGCAGAACGCTTGGTGACTGGAAATTTGGGCACCA	613
Rat RAP3 B	CGAGTGTGCAACATACGGACCGAGTCAAAGAACTCTCCACCCCTTATGCAGAACGCTTGGTGACTGGAAATTTGGGCACCA	613
ApoA IV related	GTGTCAGGAGCTGCACCGGAGTGTGGCTCCGACAGCCCGCCAGCCCGCGGCTCAGTCGCTGCGTGCAGGTGCTGT	714
Rat RAP3 A	TGTGTCAGGAGCTGCACCGGAGTGTGGCTCCTCACCGAGTTGCCAGCCCGCGAGACTCAGTCGCTGCGTGCAGACCTGT	693
Rat RAP3 B	TGTGTCAGGAGCTGCACCGGAGTGTGGCTCCTCACCGAGTTGCCAGCCCGCGAGACTCAGTCGCTGCGTGCAGACCTGT	693
ApoA IV related	CCGGAAGCTCAGGCTGAAGGCAAGGCTCTGCAAGGATCCAGCAGAACTGGACAGCTGCGGGAAGAGCTCAGC	794
Rat RAP3 A	CCCAAACTCACAAGTAAAGGCGAAGGACTTGACACAGCATCCAAAGCAACCTGGATCAGCTGCGAGATGAGCTCAGT	773
Rat RAP3 B	CCCAAACTCACAAGTAAAGGCGAAGGACTTGACACAGCATCCAAAGCAACCTGGATCAGCTGCGAGATGAGCTCAGT	773
ApoA IV related	AGA---GCCCTTTCAGGCACT---TGGGACTGAGGAGAGGGCGGGCCGGACCCAGATGCTCTCGAGGAGGTGCGCCA	868
Rat RAP3 A	ACCTTCATCGTGTGAGCAGACAGCGGGCAGACACAGAGACTCCCTGGACCTCAAGCTCTCTGACGAGGTTCGCCA	853
Rat RAP3 B	ACCTTCATCGTGTGAGCAGACAGCGGGCAGACACAGAGACTCCCTGGACCTCAAGCTCTCTGACGAGGTTCGCCA	853
ApoA IV related	GCGACTTCAGGCTTTCCGCGAGACACCTACCTGCAGATAGCTGCCCTCACTCGGCCATGACACAGGAGATGAGGAGG	948
Rat RAP3 A	GAGACTCCAGGCTTTTCGACATGACACCTACCTGCAGATGCTGCATTCACTCAGGCCATTGACACAGGAGACCGAGGAA	933
Rat RAP3 B	GAGACTCCAGGCTTTTCGACATGACACCTACCTGCAGATGCTGCATTCACTCAGGCCATTGACACAGGAGACCGAGGAA	933
ApoA IV related	TCCAGCAGCAGCTGGGCGCCACTTCCAGCAGGCCAAGTGCCTTCGCGCCAGAGTTTCAACAAACAGACAGTGGCAAGGTT	1028
Rat RAP3 A	TCCAGCAGCAGCTGGCACCACCCCGCTAGCCACAGCGCTTCGCTCCAGAGTTGGGACACTCAGACAGTAATAAGGCC	1013
Rat RAP3 B	TCCAGCAGCAGCTGGCACCACCCCGCTAGCCACAGCGCTTCGCTCCAGAGTTGGGACACTCAGACAGTAATAAGGCC	1013
ApoA IV related	CTGAGCAAGCTGCAGGCGCGTCTGGATGACCTGTGGGAAGCATCACTCAAGCCTTCATGACCAGGGCCACAGCCATCT	1108
Rat RAP3 A	CTGAGCAGACTGCAGAGCGGCTGGAGCAGCTCTGGGAAGATATTGCCTATGGCCTTCATGACCAGGGCCATAGTCA---	1090
Rat RAP3 B	CTGAGCAGACTGCAGAGCGGCTGGAGCAGCTCTGGGAAGATATTGCCTATGGCCTTCATGACCAGGGCCATAGTCA---	1090
ApoA IV related	GGGGACCCCTGAGGATCTACCTGCGCAGGCCCAATTC--CAGCTCCTTGTCTGGGGAGCCTTGGCTCTGAGCCTCTAGCA	1187
Rat RAP3 A	-GAATAACCTGAGGGT-----ACTCAGGTTAACTCTGAGCTCGTTGTCTGGA-----CCCTGAGCCTTCAGCA	1155
Rat RAP3 B	-GAATAACCTGAGGGT-----ACTCAGGTTAACTCTGAGCTCGTTGTCTGGA-----CCCTGAGCCTTCAGCA	1155

Figure 9 A

Alignment of ApoA IV-related cDNA with Rat RAP3 cDNAs

ApoA IV related	TGGTTCAGTCCTTGAAAGTGGCTGTGGGTGGAGGTGGAGGTCCTGTGCAGGACAGG-GAGGCCACCAAGGGCTG	1266
Rat RAP3 A	TGG-----CCTAATAGGCAGAGGGTGGAGGTCCTGCATACTATTGGCGAGGCCACCAAGGTGCTG	1217
Rat RAP3 B	TGG-----CCTAATAGGCAGAGGGTGGAGGTCCTGCATACTATTGGCGAGGCCACCAAGGTGCTG	1217
ApoA IV related	CTGTCTCTGCATATCCAGCCTCCTGGACTCCCCAATCTGGATGCATTACATTCACAGGCTTTCGAAACCCAGGCTCG	1346
Rat RAP3 A	CTG-CCCCAACCTGTCTGGCCTCCT-CAACTCCCCCACTCAGGTGCATTACACTCAGTAGGTTTGGCAAACAAGGTTCC	1295
Rat RAP3 B	CTG-CCCCAACCTGTCTGGCCTCCT-CAACTCCCCCACTCAGGTGCATTACACTCAGTAGGTTTGGCAA-----	1285
ApoA IV related	CAGTGTCTCATTGGGAATGCTCATGAGTTACTCCATTCAAGGGTGAGGGATAGGGAGGGAGAGGCACCATGCATGTGGG	1426
Rat RAP3 A	GGTGTCTCATTGGGA-TCCTAGGAG-----CAAGAGTG-GGGTGAAGGGAGTGGGAG-ATGGTGTGGGGGG	1361
Rat RAP3 B	-----	1285
ApoA IV related	TGATTATCTGCAAGCC--TGTTTGCCTGTATGCTGGAGCCTGTGCCACTACATCCTGGAGTTTGGCTCTAGTCACTTCT	1504
Rat RAP3 A	AGACTGACTGCAAGCCAGTACTTGAC-CGTTGTCTAGAAACCTGTGTCACTACACCTGGAGCCCGGCTCTATTACTTGA	1440
Rat RAP3 B	-----	1285
ApoA IV related	GGCTGCCTGGTGGGCACTGTCTACAGCTGGTGCACAGAGAGGAGCACTGTGTCTCCCCAGGGCTGCCATGGCAGGTATCAGG	1584
Rat RAP3 A	--TGCTGTATGGTGGCTGTATAGTGGTGTACAGAGGGGAAGTCCGTGTCTCCCCAGGGTTTGTATGACAGGCTTTGTT	1517
Rat RAP3 B	-----	1285
ApoA IV related	GGAATAGAAAGGGAGAAAGAGAAATATCATGGGGAGAACNTGTGATGGTGTGTGAATATCCCTGCTGGC---TC--TGATG	1658
Rat RAP3 A	GGAAAGAGGCAAGGAGAACTGTGACCGTATGATGGAGTGTGTACATCCCTGCCAGTGGTCCCTGCTGGGGGAATCAGTGATG	1597
Rat RAP3 B	-----	1285
ApoA IV related	---CTGGTGGGTATC-----AAAGGTG-----TGGG-----CTGTGATAGGAGAGGGCAGAGCCCATGTTTCTTGACATA	1720
Rat RAP3 A	GGATAAATGTGTGGATCCCTGCGTGGTCTGTGGGGATGAGTGATGGGATGGGCAGAGCCCATTTTCTCTAGACA	1677
Rat RAP3 B	-----	1285
ApoA IV related	GCTCTACACGTAAATAAGGACTGAACCCCTCCCACTGTGGAGCTCCTTAAA-CCCTCTGGGGAGCCTACTGTGTGCTG	1799
Rat RAP3 A	ACTCTA-ACCCAAATAAGGAACTGAGCCCTCT-CCAGTGAGGGCTTCTGAAAACCTGTACATAGCNAACTGTGTGCTG	1754
Rat RAP3 B	-----	1285
ApoA IV related	TGCCCATC-TCCAGCCCTCCCTGTGGGTTCGGAAGTTGAAGCCTAGACTTGTGGCTCAAATGAAATAGATGTTTATGAT	1878
Rat RAP3 A	TGTTTCATCATGCAGTCCCACTGCTGATTCTCGGGATGGAACT--GACTTTTGGTTGGAATGAAATAGACGCTCATGAT	1832
Rat RAP3 B	-----	1285
ApoA IV related	-----A	1879
Rat RAP3 A	GGAAAAAAAAAAAAAAAA	1850
Rat RAP3 B	--AAAAAAAAAAAAAAAA	1300

Figure 9 B

Alignment of ApoA IV-related protein to Rat RAP3 proteins

ApoA IV related Rat RAP3 A Rat RAP3 B	MAISMAAVLTWALALLSAFSATQARKGFWDYFSQTSGDGKGRVEQIHQQKMAAREEATLKDSLEQDLNNMNNKFLKLRPL--S78 MA-----AVITWALALLSVFATVQARKSFWEYFGQNSQGKGMGQ--QQKLAQES--LKGSLEQDLNNMNNFLEKLGPLREP73 MA-----AVITWALALLSVFATVQARKSFWEYFGQNSQGKGMGQ--QQKLAQES--LKGSLEQDLNNMNNFLEKLGPLREP73
ApoA IV related Rat RAP3 A Rat RAP3 B	GSEAPRLPQDPVGMRRRLQEELEEVEVKARLPQPYMAEAHELVGWNLEGLRQQLKPYTMDLMEQVALRVQELQEQLRVVGEDIT158 GKEPPRLAQDPEGIRKQLQQELEEVEVSTRLEPYMAAKHQVGVNLEGLRQQLKPYTVELMEQVGLSVQDLQEQLRMVVGKGT153 GKEPPRLAQDPEGIRKQLQQELEEVEVSTRLEPYMAAKHQVGVNLEGLRQQLKPYTVELMEQVGLSVQDLQEQLRMVVGKGT153
ApoA IV related Rat RAP3 A Rat RAP3 B	KAQLLGGVDEAWALLQGLQSRVVHHTGRFKELFHPYAESLVSGIGRHVQELHRSVAPHAPASPARLSRCVQVLSRKLTLLK238 KAQLLGGVDEAMSLIQDMQSRVLLHHTDRVKELFHPYAEERLVGTGIGHVQELHRSVAPHAVASPARLSRCVQTLSHKLTTRK233 KAQLLGGVDEAMSLIQDMQSRVLLHHTDRVKELFHPYAEERLVGTGIGHVQELHRSVAPHAVASPARLSRCVQTLSHKLTTRK233
ApoA IV related Rat RAP3 A Rat RAP3 B	AKALHARTQNLDDQLREELSRAF---AGTGTGEGAGDPQMLSEEVQRRLQAFRQDTYLIQIAAFTRAIDQETEEVQQQLA315 AKDLHTSIQRNLDDQLRDELS-TFIRVSTDGADNRDSDLDPQALSDEVQRQLQAFRHDTYLIQIAAFTQAIQETEEIQHQLA312 AKDLHTSIQRNLDDQLRDELS-TFIRVSTDGADNRDSDLDPQALSDEVQRQLQAFRHDTYLIQIAAFTQAIQETEEIQHQLA312
ApoA IV related Rat RAP3 A Rat RAP3 B	PPPPGHSAFAPEEQQTDSGKVLSSKLAARLDDDLWEDITHSLHDQGHSHLG---DP366 PPPPSHSAFAPELGHSDSNKALSRLQSRLLDDDLWEDIAYGLHDQGHSQNNPEGHSG367 PPPPSHSAFAPELGHSDSNKALSRLQSRLLDDDLWEDIAYGLHDQGHSQNNPEGHSG367

Figure 10

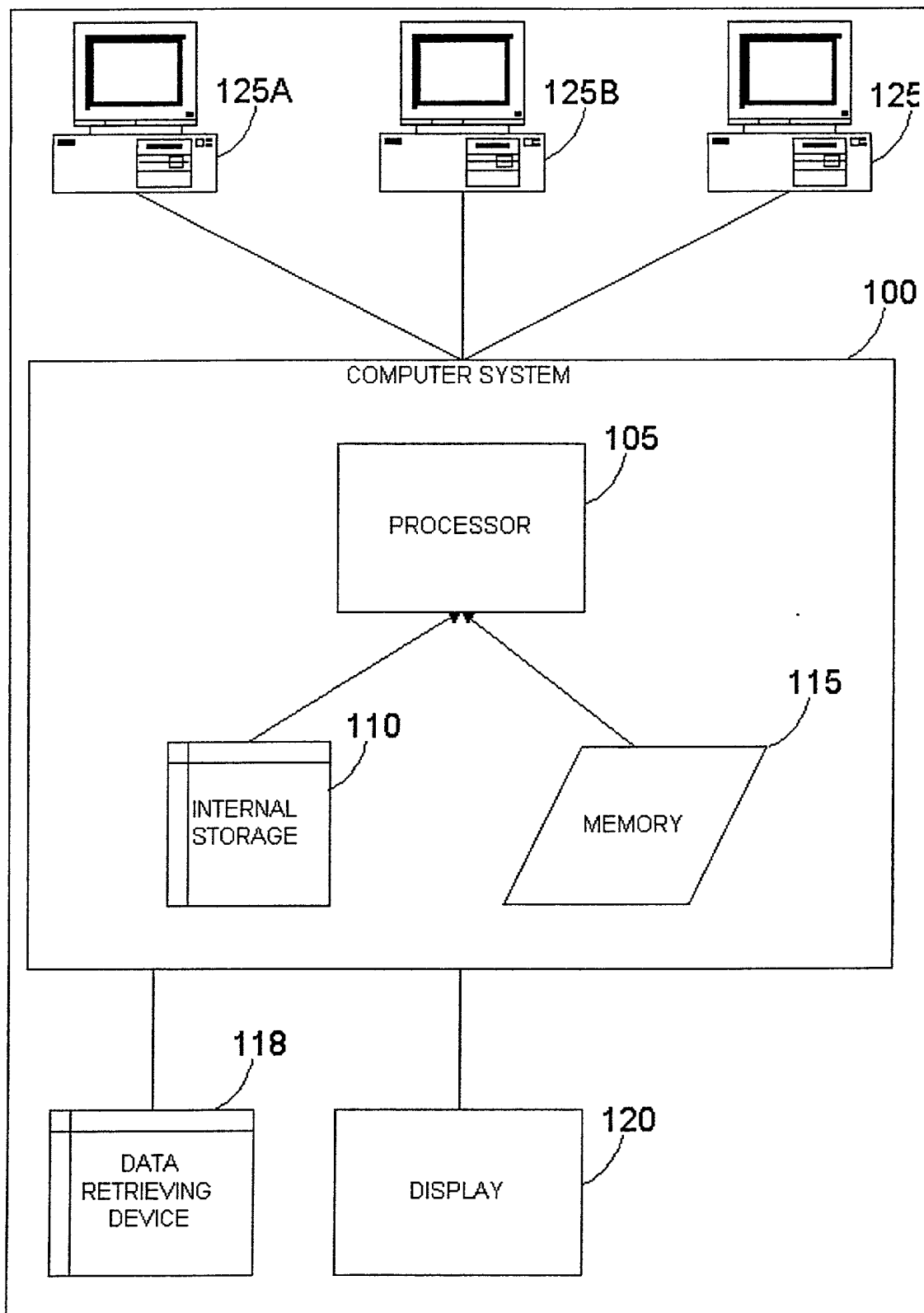


Figure 11

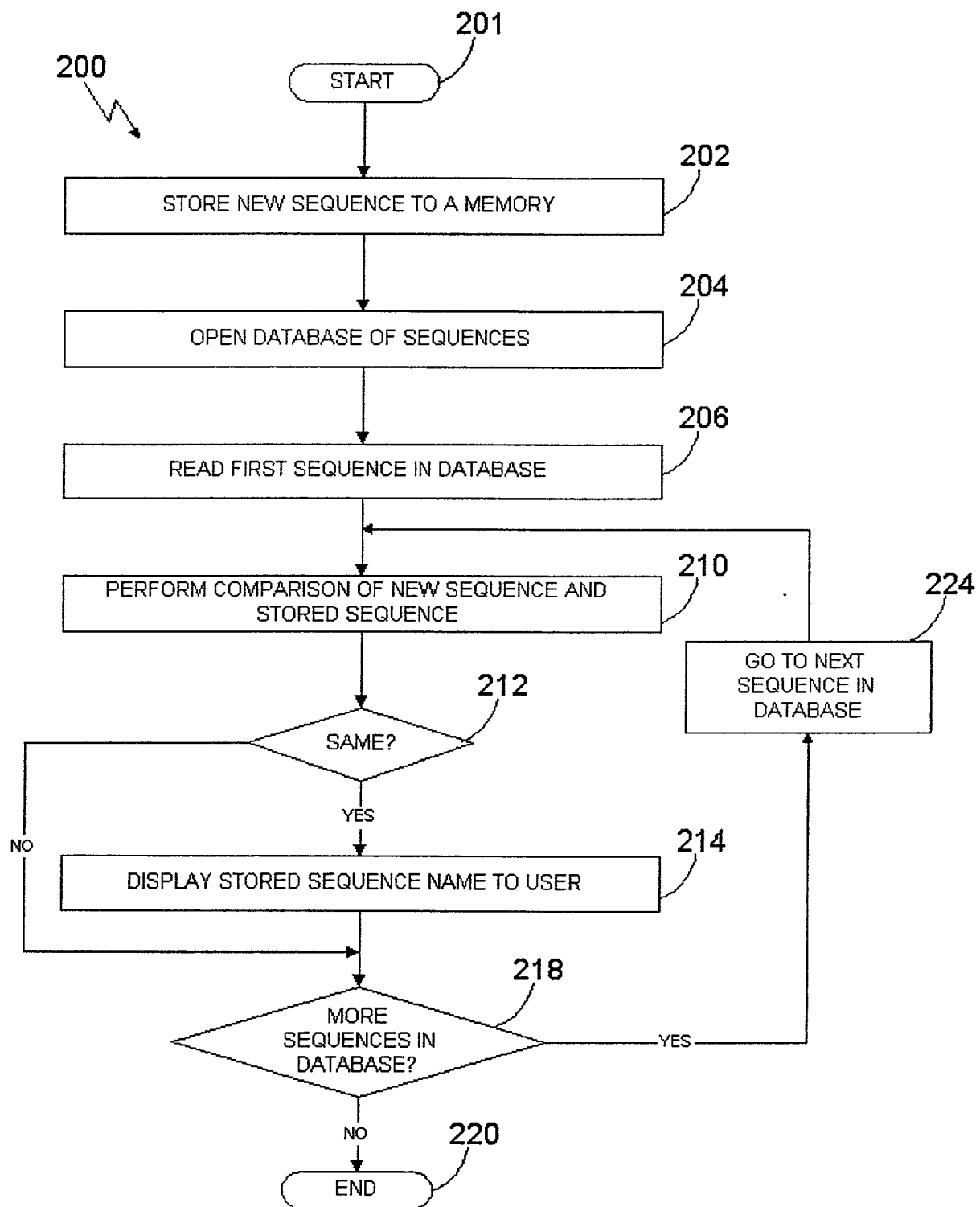


Figure 12

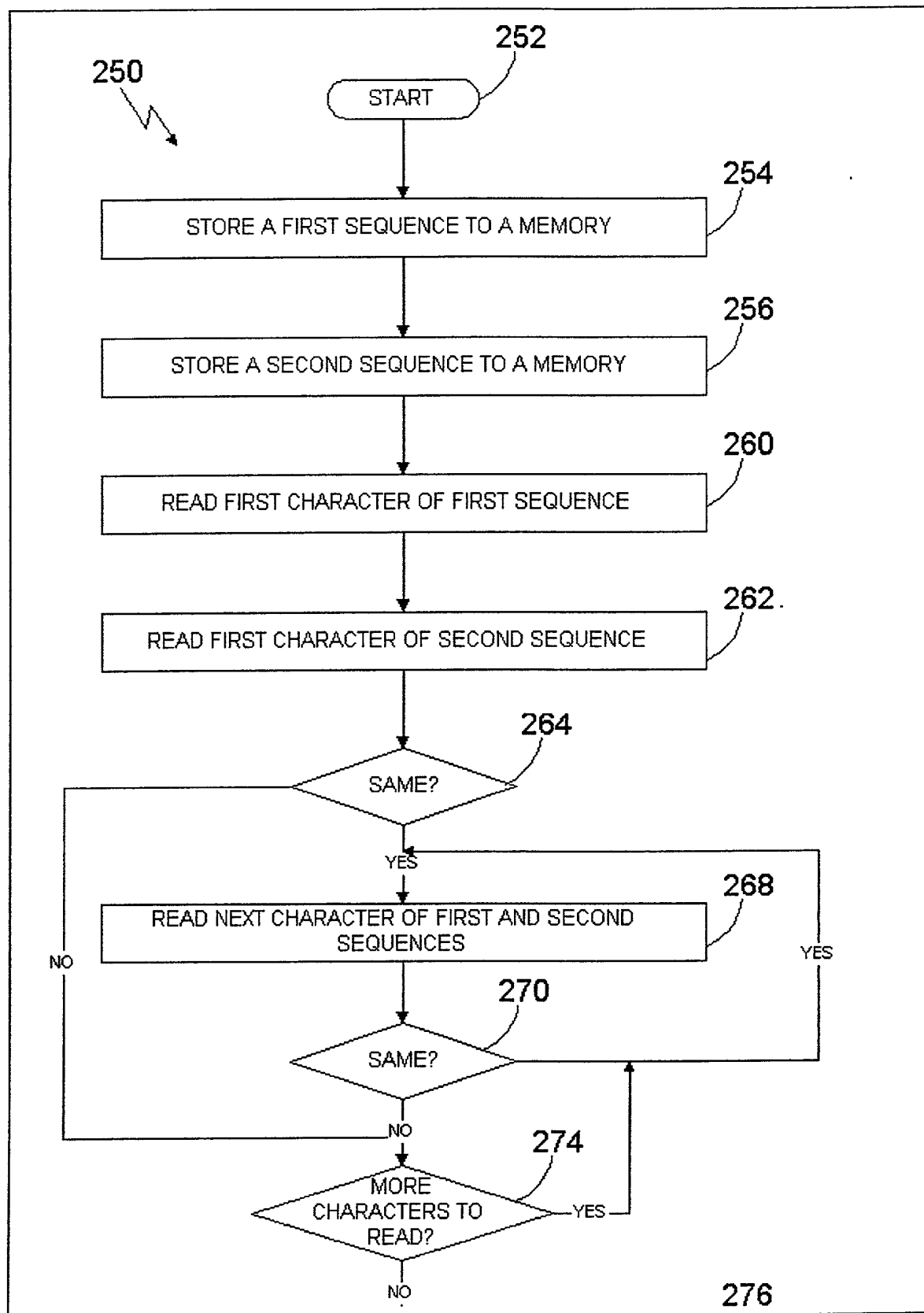


Figure 13

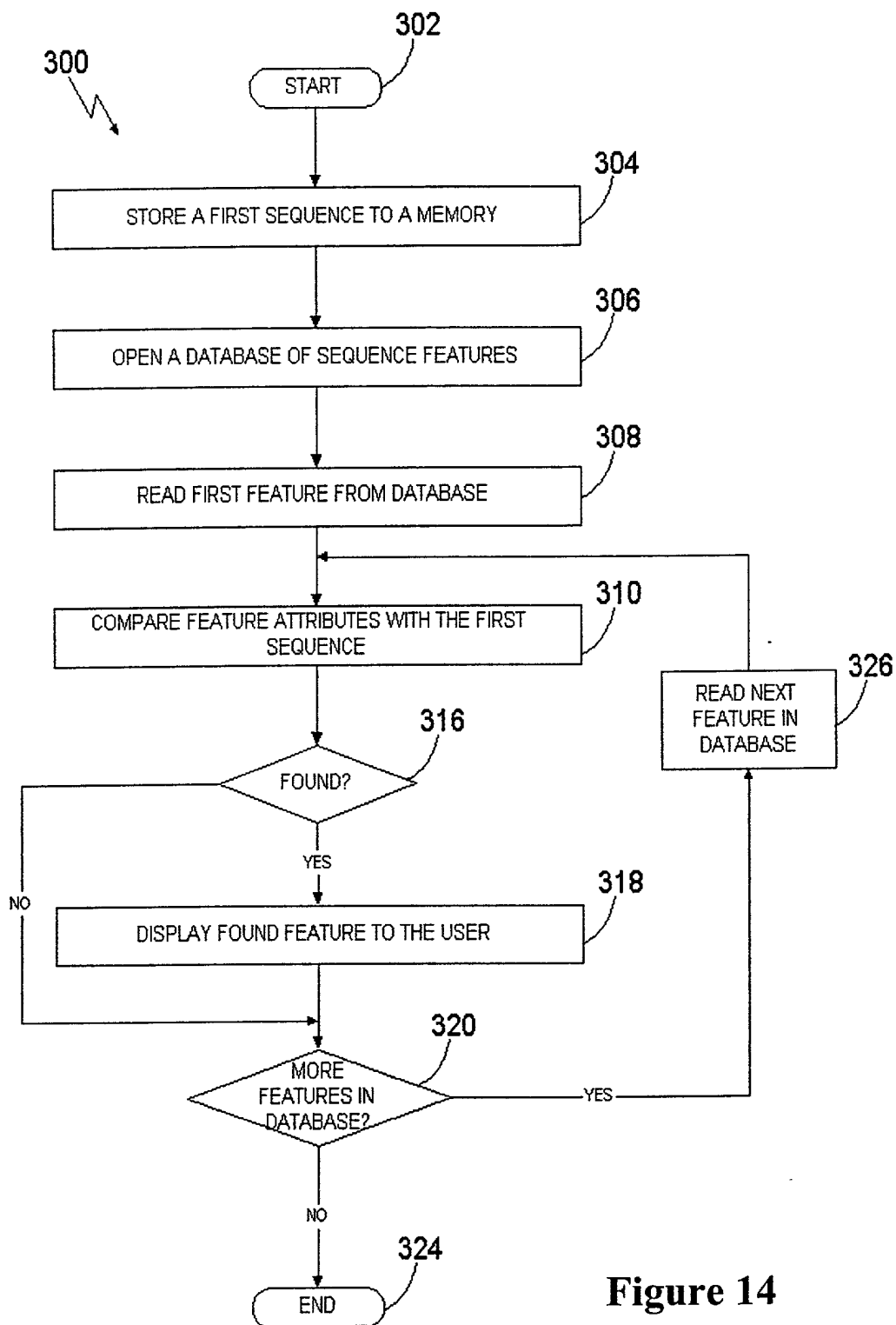


Figure 14